

MODEL
A-K20
STEREO INTEGRATED AMPLIFIER



No. 26 15 Mar. 19 82

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Warning: When replacing the parts marked with ! be sure to use the designated parts to ensure safety.

1. Specifications

Output Power

: 30 watts per channel, min.

RMS, both channels driven, into 8 ohms from 20 Hz to 20 kHz, with no more than 0.08% total harmonic distor-

35 watts per channel, min. RMS, both channels driven, into 8 ohms at 1 kHz with no more than 0.7% total harmonic

distortion

Total Harmonic Distortion: 0.08% at Rated output, from

20 Hz to 20 kHz, 8 ohms 0.7% at Rated output at 1 kHz,

8 ohms

Intermodulation

Distortion

: 0.08% at Rated output, 8 ohms

Power Band Width

: 10 Hz - 30 kHz (IHF, both channels driven, 8 ohms, 0.08%

Frequency Response

Damping Factor

: 30 (1 kHz, 8 ohms)

+1.0 dB : 10 Hz - 30 kHz -3 dB

Tone Controls **BASS**

: 100 Hz ± 8 dB **TREBLE** : 10 kHz ± 8 dB

Input Sensitivity/ Impedance

> : 2.5 mV/47 kohms Phono TUNER, AUX, TAPE : 160 mV/40 kohms

: 150 mV Rec. Output Level

Phono Equalizer Deviation: ±1.0 dB (40 Hz - 15 kHz) Phono Overload : 100 mV (1 kHz, 0.2%)

Signal to Noise Ratio

Phono : 67 dB (new IHF) 70 dB (IHF) TUNER, AUX, TAPE : 75 dB (new IHF) 90 dB (IHF)

: +5 dB at 100 Hz, Loudness Control (Volume Control at +3 dB at 10 kHz

-30 dB position)

Dimensions : 77.3(H) x 435(W) x 298.5(D) mm

(3"×17-1/8"×11-3/4")

Weight (Net) : 4.6 kg (10 lbs)

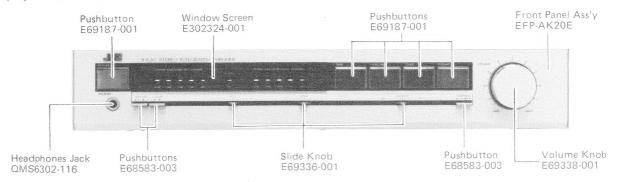
Design and specifications subject to change without notice.

Power Specifications

Area	Line Voltage & Frequency	Power Consum ption
U.S.A. & Canada	AC 120 V, 60 Hz	135 watts, 1 55 VA
Europe	AC 220 V ∼, 50 Hz	220 vatts
U.K. & Australia	AC 240 V √, 50 Hz	220 vatts
Other Countries	AC 110/120/220/240 V \sim selectable, 50/60 Hz	280 vatts

2. Main Parts Location

2-(1) Front View



2-(2) Rear View

Fig. 1

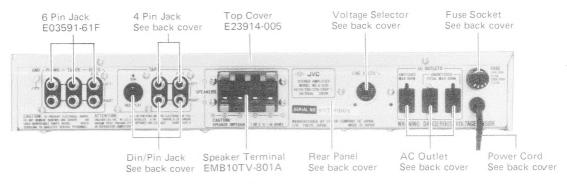


Fig. 2

2-(3) Top View

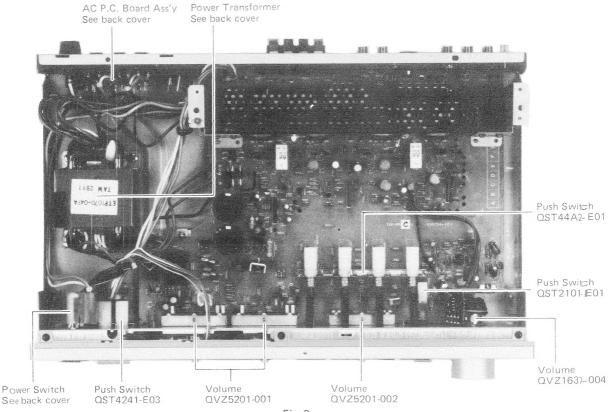


Fig. 3

3. Exploded View and Part Numbers

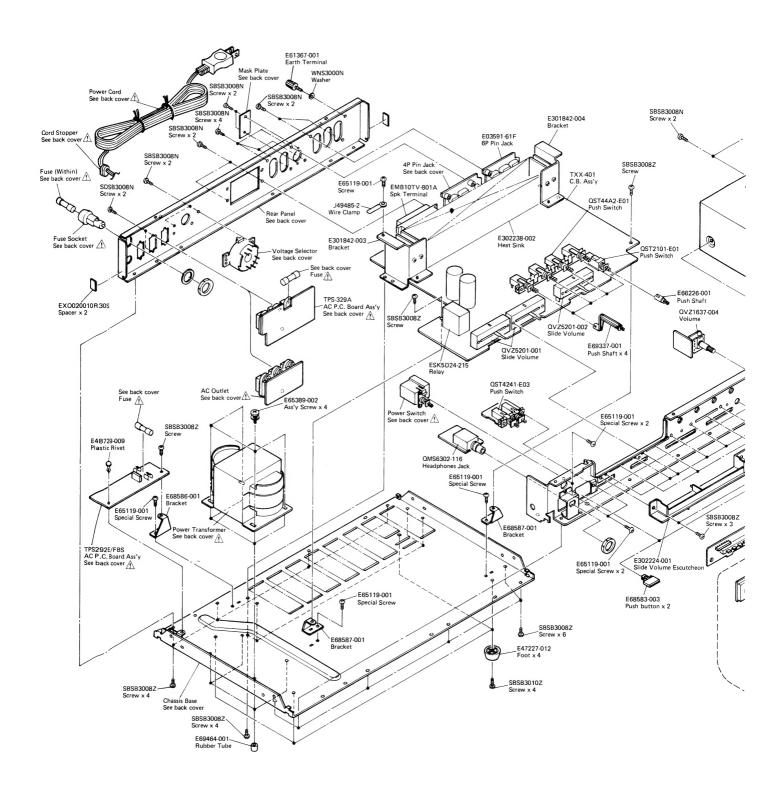


Fig. 4

4. Removal Procedures of Chassis Base

(1) Remove screws 1 and 2 on the P.C. board.

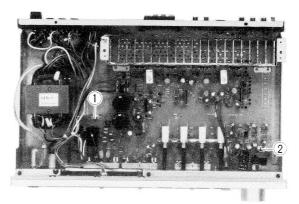


Fig. 5

(2) Remove screws 3 - 15 on the chassis base.

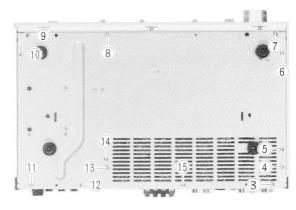


Fig. 6

(3) Remove the chassis base in this manner shown in Fig. 7.

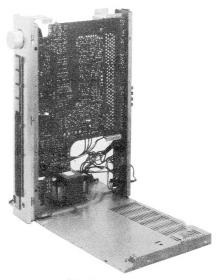


Fig. 7

SBSB3008N T. Screw x 3

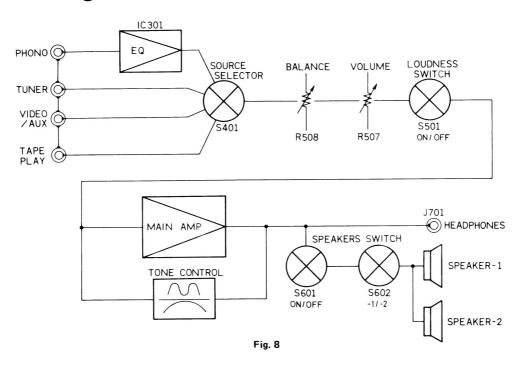
E69212-001 Mark

E65119-001 Special Screv

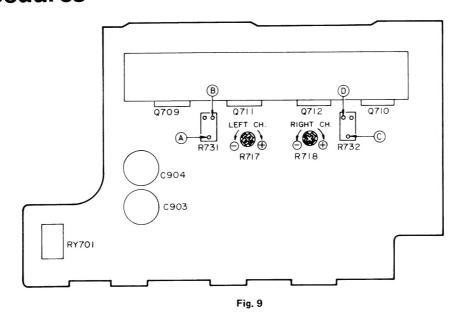
E60912-003 Speed Nut x

E10733-002 Panel Base

5. Block Diagram



6. Power Amplifier Idling Current Adjustment Procedures



- 1. Before turning on the power, turn the semi-fixed resistors < R717 for L channel and R718 for R channel of the power amplifier circuit board fully counterclockwise.
- 2. Adjust the semi-fixed resistors (R717 and R718) so that the voltage at the following test points of the power amplifier circuit board is within a range of 6 mV ~ 12 mV after the power is turned on.
 - L channel: Measure the voltage between test point (A) (emitter of Q711) and output at the test point (B).
- R channel: Measure the voltage between test point \bigcirc (emitter of Q712) and output it the test point \bigcirc .
- 3. Readjust resistors R717 and R718 about 5 mnu tes after the power is turned on (the heat sink temperature must be sufficiently high) so that the voltage at thetest points becomes 15 mV.

Confirm that the voltage does not vary when the heat sink temperature increases further.

7. Printed Circuit Board Ass'y and Parts List

7-(1) TXX-410 Main Amp P.C. Board Ass'y

Note: TXX-410□-1 varies according to the areas employed. See note (1) when placing an order.

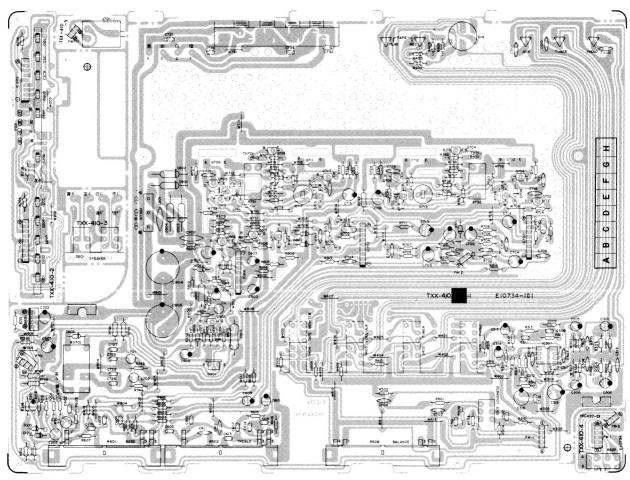
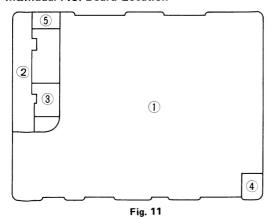


Fig. 10

Each Individual P.C. Board Location



- 1 TXX-410-1 Main P.C. Board Ass'y
- 2 TXX-410-2 Peak Indicator P.C. Board Ass'y
- 3 TXX-410-3 Speaker Switch P.C. Board Ass'y
- (4) TXX-410-4 Volume P.C. Board Ass'y
- (5) TXX-410-5 Head Phone P.C. Board Ass'y

Note (1)

Designated Areas	P.C. Board Ass'y
U.S.A. & Canada	TXX-410△ -1
U.K., Europe & Australia	TXX-410 [®] -1
U.S. Military Market &	TXX-410© -1
other countries	
W. Germany	TXX-410回 -1

Note (2)

The symbols (赤 , 黒 , 白 ...) on P.C. Board surface are factory process only.

Transistors

Item No.	Part Number	Rating	Descrip	tion
				Maker
Q701	2SA949(Y)		Silicon	Toshiba
Q702	2SA949(Y)		Silicon	Toshiba
Q703	2SC2546(E,F)		Silicon	Hitachi
Q704	2SC2546(E,F)		Silicon	Hitachi
Q705	2SC2235(O,Y)		Silicon	Toshiba
Ω706	2SC2235(O,Y)		Silicon	Toshiba
Q707	2SA965(O,Y)		Silicon	Toshiba
Q708	2SA965(O,Y)		Silicon	Toshiba
Q709	2SD718(R,O)		Silicon	Toshiba
Q710	2SD718(R,O)		Silicon	Toshiba
Q711	2SB688(R,O)		Silicon	Toshiba
Q712	2SB688(R,O)		Silibon	Toshiba
Q801	2SC1775AV(E,F)		Silicon	Hitachi
Q802	2SC1775AV(E,F)		Silicon	Hitachi
Q803	2SA872AV(E)		Silicon	Hitachi
Q901	2SD313V(D,E)		Silicon	Sanyo
Q902	2SC1775AV(E,F)		Silicon	Hitachi

Integrated Circuits

Item No.	Part Number	Rating	Description
			Maker
IC201	AN6875		Matsushita
IC202	AN6875		Matsushita
IC301	NJM4558D-D		Dainichi
IC701	AN7060		Matsushita
IC702	AN7060		Matsushita
IC801	TA7317P		Toshiba

Diodes

Item No.	Part Number	Rating	Descrip	tion
				Maker
D201	GL-9NG230		L.E.D.	Sharp
D202	G L-9NG230		L.E.D.	Sharp
D203	G L-9NG230		L.E.D.	Sharp
D204	G L-9NG230		L.E.D.	Sharp
D205	G L-9NG230		L.E.D.	Sharp
D206	G L-9PR230		L.E.D.	Sharp
D207	G L-9NG230		L.E.D.	Sharp
D208	G L-9NG230		L.E.D.	Sharp
D209	G L-9NG230		L.E.D.	Sharp
D210	G L-9NG230		L.E.D.	Sharp
D211	G L-9NG230		L.E.D.	Sharp
D212	1S2076-31		Silicon	Hitachi
D213	1S2076-31		Silicon	Hitachi
D701	R D6.2EB3		Zener	NEC
D801	1 S2076-31		Silicon	Hitachi
D802	1S2076-31		Silicon	Hitachi
D803	1S2076-31		Silicon	Hitachi
D804	1S2076-31		Silicon	Hitachi
D901	\$3V20F		Silicon	Shindengen
D902	S3V20F		Silicon	Shindengen
D903	\$3V20F		Silicon	Shindengen
D904	S3V20F		Silicon	Shindengen
D905	R D15EB3		Zener	NEC
D906	R D15EB3		Zener	NEC

Coils

Item No.	Part Number	Rating	Description
L701	Y 00087-002		Coil
L702	Y 00087-002		Coil

Capacitors

Capacito	, , , , , , , , , , , , , , , , , , , ,			
Item No.	Part Number	Rati	ing	Description
C201	QET61HM-474Z	0.47 μF	50 V	Electrolytic
C202	QET61HM-474Z	0.47 µF	50 V	Electrolytic
C203	QEZ0046-475	4.7 μF	50 V	N.P. Electrolytic
C204	QEZ0046-475	4.7 μF	50 V	N.P. Electrolytic
C301	QET61HM-475Z	4.7 μF	50 V	Electrolytic
C302	QET61HM-475Z	4.7 µF	50 V	
				Electrolytic
C303	QCS31HJ-471Z	470 pF	50 V	Ceramic (for W.
C304	QCS31HJ-471Z	470 pF	50 V	Ceramic Germany
				only)
C305	QET61AM-107Z	100 μF	10 V	Electrolytic
C306	QET61AM-107Z	100 μF	10 V	Electrolytic
C307	QCS31HJ-101Z	100 pF	50 V	Ceramic
C308	QCS31HJ-101Z	100 pF	50 V	Ceramic
C309	QFM31HJ-182Z	1800 pF	50 V	Mylar
C310	QFM31HJ-182Z	1800 pF	50 V	Mylar
C311	QFM31HJ-682Z	6800 pF	50 V	Mylar
C312	QFM31HJ-682Z	6800 pF	50 V	Mylar
C313	QET61HM-475Z	4.7 μF	50 V	Electrolytic
C314	QET61HM-475Z	4.7 μF	50 V	Electrolytic
C315	QET61EM-107Z	10 μF	25 V	Electrolytic
C316	QET61EM-107Z	10 μF	25 V	Electrolytic
C317	QFM81HJ-473	0.047 μF	50 V	Mylar (for W.
C318	QFM81HJ-473	0.047 μF	50 V	Mylar Germany
				only)
C319	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C501	QFM31HJ-273Z	$0.027 \mu F$	50 V	Mylar
C502	QFM31HJ-273Z	$0.027 \mu F$	50 V	Mylar
C503	QCS31HJ-271Z	220 pF	50 V	Ceramic
C504	QCS31HJ-271Z	220 pF	50 V	Ceramic
C509	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C510	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C511	QCF31HP-103Z	0.01 μF	50 V	Ceramic
C601	QFM31HJ-333Z	0.033 μF	50 V	Mylar
C602	QFM31HJ-333Z	0.033 μF	50 V	Mylar
C603	QFM81HJ-224	0.033 μ1 0.22 μF	50 V	Mylar
C604			1	
	QFM81HJ-224	0.22 μF	50 V	Mylar
C605	QFM31HJ-222Z	2200 pF	50 V	Mylar
C606	QFM31HJ-222Z	2200 pF	50 V	Mylar
C607	QFM31HJ-223Z	$0.022 \mu F$	50 V	Mylar
C608	QFM31HJ-223Z	$0.022 \mu F$	50 V	Mylar
C609	QET61EM-106Z	10 μF	25 V	Electrolytic
C610	QET61EM-106Z	10 μF	25 V	Electrolytic
C611	QCS31HJ-331Z	330 pF	50 V	Ceramic
C612	QCS31HJ-331Z	330 pF	50 V	Ceramic
C613	QFM31HJ-272Z	2700 pF	50 V	Mylar
C614	QFM31HJ-272Z	2700 pF	50 V	Mylar
C701	QCS31HJ-101Z	100 pF	50 V	Ceramic
C702	QCS31HJ-101Z	100 pF	50 V	Ceramic
C702	QET61HM-475Z	4.7 μF	50 V	Electrolytic
C703	QET61HM-475Z	4.7 μF 4.7 μF	50 V	Electrolytic
C704 C705	QET61AM-107Z		10 V	Electrolytic
1		100 μF	10 V	
C706	QET61AM-107Z	100 μF		Electrolytic
C707	QCS31HJ-101Z	100 pF	50 V	Ceramic
C708	QCS31HJ-101Z	100 pF	50 V	Ceramic
C709	QCS31HJ-100Z	10 pF	50 V	Ceramic
C710	QCS31HJ-100Z	10 pF	50 V	Ceramic
C711	QCS31HJ-471Z	470 pF	50 V	Ceramic
C712	QCS31HJ-471Z	470 pF	50 V	Ceramic
C713	QET51HM-107H	100 μF	50 V	Electrolytic
C714	QET51HM-107H	100 μF	50 V	Electrolytic
C715	QET61HM-476Z	47 μF	50 V	Electrolytic
C716	QET61HM-476Z	47 μF	50 V	Electrolytic
	QCS31HJ-390Z		50 V	Ceramic
C717		39 pF		
C718	QCS31HJ-390Z	39 pF	50 V	Ceramic
C721	QCS31HJ-181Z	180 pF	50 V	Ceramic
C722	QCS31HJ-181Z	180 pF	50 V	Ceramic
C723	QCS31HJ-181Z	180 pF	50 V	Ceramic
C724	QCS31HJ-181Z	180 pF	50 V	Ceramic
C725	QFM81HJ-473	0.047 μF	50 V	Mylar
C726	QFM81HJ-473	0.047 μF	50 V	Mylar

Capacitors

Item No.	Part Number	Rati	ing	Description
C727	QFM31HJ-473Z	0.047 μF	50 V	Mylar
C728	QFM31HJ-473Z	0.047 μF	50 V	Mylar
C731	QFM31HJ-102Z	1000 pF	50 V	Mylar
C732	QFM31HJ-102Z	1000 pF	50 V	Mylar
C733	QFM31HJ-102Z	1000 pF	50 V	Mylar
C734	QFM31HJ-102Z	1000 pF	50 V	Mylar
C801	QET61CM-226Z	22 μF	16 V	Electrolytic
C802	QET61AM-476Z	47 μF	10 V	Electrolytic
C803	QET61CM-226Z	22 μF	16 V	Electrolytic
C804	QET61HM-225Z	2.2 μF	50 V	Electrolytic
C901	QCE22HP-103A	0.01 μF	500 V	Ceramic(for U.S.A.
				and Canada)
C901	QFZ0075-474H	0.47 μF	400 V	Mylar (for W.
				Germany)
C901	QFZ0075-104H	0.1 μF	400 V	Mylar (for Other
				Areas)
C902	QCE22HP-103A	0.01 μF	500 V	Ceramic
C903	QEZ0061-478	4700 μF	50 V	Electrolytic
C904	QEZ0061-478	4700 μF	50 V	Electrolytic
C905	QET61EM-107Z	10 μF	25 V	Electrolytic
C906	QET61EM-107Z	10 μF	25 V	Electrolytic
C907	QEZ0046-475	4.7 μF	50 V	N.P. Electrolytic

Resistors

Item No.	Part Number	Rati	ina	Description
R201	QRD141J-472S	4.7 kΩ	1/4 W	Carbon
R202	QRD141J-472S	4.7 kΩ	1/4 W	Carbon
R205	QRD141J-332S	3.3 kΩ	1/4 W	Carbon
R206	QRD141J-332S	3.3 kΩ	1/4 W	Carbon
R209	QRD141J-152S	1.5 kΩ	1/4 W	Carbon
R211	QRD141J-105S	1 ΜΩ	1/4 W	Carbon
R212	QRD141J-105S	1 ΜΩ	1/4 W	Carbon
R213	QRD141J-823S	82 kΩ	1/4 W	Carbon
R214	QRD141J-823S	82 kΩ	1/4 W	Carbon
R215	QRD141J-474S	470 kΩ	1/4 W	Carbon
R216	QRD141J-474S	470 kΩ	1/4 W	Carbon
R301	QRD141J-224S	220 kΩ	1/4 W	Carbon
R302	QRD141J-224S	220 kΩ	1/4 W	Carbon
R303	QRD141J-563S	56 kΩ	1/4 W	Carbon
R304	QRD141J-563S	56 kΩ	1/4 W	Carbon
R305	QRD141J-222S	2.2 kΩ	1/4 W	Carbon
R306	QRD141J-222S	$2.2~\mathrm{k}\Omega$	1/4 W	Carbon
R307	QRD141J-751S	750 Ω	1/4 W	Carbon
R308	QRD141J-751\$	750 Ω	1/4 W	Carbon
R309	QRD141J-821S	820 Ω	1/4 W	Carbon
R310	QRD141J-821S	820 Ω	1/4 W	Carbon
R311	QRD141J-393S	39 kΩ	1/4 W	Carbon
R312	QRD141J-393S	39 kΩ	1/4 W	Carbon
R313	QRD141J-474S	470 kΩ	1/4 W	Carbon
R314	QRD141J-474S	470 kΩ	1/4W	Carbon
R315	QRD141J-471S	470 Ω	1/4 W	Carbon
R316	QRD141J-471S	470 Ω	1/4 W	Carbon
R317	QRD141J-104S	100 kΩ	1/4 W	Carbon
R318	QRD141J-104S	100 kΩ	1/4W	Carbon
R319	QRD149J-101S	100 Ω	1/4 W	Carbon <u>∧</u>
R320	QRD149J-101S	100 Ω	1/4 W	Carbon <u>∧</u>
R401	QRD141J-332S	$3.3~\mathrm{k}\Omega$	1/4 W	Carbon
R402	QRD141J-332S	3.3 kΩ	1/4 W	Carbon
R403	QRD141J-334S	330 kΩ	1/4 W	Carbon (except
R404	QRD141J-334S	330 kΩ	1/4 W	Carbon U.S.A.
R405	QRD141J-104S	100 kΩ	1/4 W	Carbon and
R406	QRD141J-104S	100 kΩ	1/4 W	Carbon Canada)
R501	QRD141J-224S	220 kΩ	1/4 W	Carbon
R502	QRD141J-224S	220 kΩ	1/4 W	Carbon
R503	QRD141J-223S	22 kΩ	1/4 W	Carbon
R504	QRD141J-223S	22 kΩ	1/4 W	Carbon
R505	QRD141J-472S	4.7 kΩ	1/4 W	Carbon

Resistors

Item No. Part No. Rating Description
R507 QVZ1637-004 Valiable Valiable QVZ5201-002 Valiable Carbon GR509 QRD141J-683S G8 kΩ 1/4 W Carbon GR509 QRD141J-683S G8 kΩ 1/4 W Carbon GR602 QVZ5201-001 Valiable Valiable Valiable Valiable Valiable Valiable Valiable Valiable QVZ5201-001 R601 QVZ5201-001 QVZ5201-001 R603 QRD141J-123S 12 kΩ 1/4 W Carbon GR05 QRD141J-123S 12 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR01 QRD141J-82S 1.8 kΩ 1/4 W Carbon GR01 QRD141J-472S 4.7 kΩ 1/4 W Carbon GR01 QRD141J-862S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-562S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-562S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-561S 560 Ω 1/4 W Carbon QRD141J-222S 2.2 kΩ 1/4 W Carbon QRD141J-104S 100 kΩ 1/4 W Carbon QRD141J-391S 390 Ω 1/4 W Carbon QRD141J-102S 1 kΩ 1/4 W Car
R507 QVZ1637-004 Valiable Valiable QVZ5201-002 Valiable Carbon GR509 QRD141J-683S G8 kΩ 1/4 W Carbon GR509 QRD141J-683S G8 kΩ 1/4 W Carbon GR602 QVZ5201-001 Valiable Valiable Valiable Valiable Valiable Valiable Valiable Valiable QVZ5201-001 R601 QVZ5201-001 QVZ5201-001 R603 QRD141J-123S 12 kΩ 1/4 W Carbon GR05 QRD141J-123S 12 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR06 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR09 QRD141J-182S 1.8 kΩ 1/4 W Carbon GR01 QRD141J-82S 1.8 kΩ 1/4 W Carbon GR01 QRD141J-472S 4.7 kΩ 1/4 W Carbon GR01 QRD141J-862S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-562S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-562S 5.6 kΩ 1/4 W Carbon GR01 QRD141J-561S 560 Ω 1/4 W Carbon QRD141J-222S 2.2 kΩ 1/4 W Carbon QRD141J-104S 100 kΩ 1/4 W Carbon QRD141J-391S 390 Ω 1/4 W Carbon QRD141J-102S 1 kΩ 1/4 W Car
R509 QRD141J-683S 68 kΩ 1/4 W Carbon R610 QVZ5201-001 Valiable Valiable R601 QVZ5201-001 Valiable Valiable R603 QRD141J-123S 12 kΩ 1/4 W Carbon R604 QRD141J-182S 1.8 kΩ 1/4 W Carbon R605 QRD141J-182S 1.8 kΩ 1/4 W Carbon R606 QRD141J-82S 82 kΩ 1/4 W Carbon R607 QRD141J-82S 82 kΩ 1/4 W Carbon R608 QRD141J-82S 1.8 kΩ 1/4 W Carbon R610 QRD141J-182S 1.8 kΩ 1/4 W Carbon R611 QRD141J-182S 1.8 kΩ 1/4 W Carbon R611 QRD141J-562S 5.6 kΩ 1/4 W Carbon R613 QRD141J-562S 5.6 kΩ 1/4 W Carbon R614 QRD141J-561S 560 Ω 1/4 W Carbon R615 QRD141J-561S 560 Ω 1/4 W<
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R712 QRD149J-391S 390 Ω 1/4 W Carbon Λ R713 QRZ0052-560 56 Ω 1/4 W Fusible Λ R714 QRZ0052-560 56 Ω 1/4 W Fusible Λ R715 QRD141J-102S 1 kΩ 1/4 W Carbon R716 QRD141J-102S 1 kΩ 1/4 W Carbon R717 QVP4A0B-222 2.2 kΩ Valiable R718 QVP4A0B-222 2.2 kΩ Valiable R719 QRD141J-102S 1 kΩ 1/4 W Carbon R720 QRD141J-102S 1 kΩ 1/4 W Carbon R721 QRD149J-332S 3.3 kΩ 1/4 W Carbon Λ R722 QRD149J-332S 3.3 kΩ 1/4 W Carbon Λ R723 QRD141J-242S 2.4 kΩ 1/4 W Carbon Λ R724 QRD149J-221S 220 Ω 1/4 W Carbon Λ R725 QRD149J-221S 220 Ω 1/4 W Carbon Λ R727 QRD149J-100S 10 Ω 1/4 W Carbon Λ R729 QRD149J-100S 10 Ω 1/4
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R714 QRZ0052-560 56 Ω 1/4 W Fusible Δ R715 QRD141J-102S 1 kΩ 1/4 W Carbon R716 QRD141J-102S 1 kΩ 1/4 W Carbon R717 QVP4A0B-222 2.2 kΩ Valiabe R718 QVP4A0B-222 2.2 kΩ Valiabe R719 QRD141J-102S 1 kΩ 1/4 W Carbon R720 QRD141J-102S 1 kΩ 1/4 W Carbon R721 QRD149J-332S 3.3 kΩ 1/4 W Carbon Δ R722 QRD149J-332S 3.3 kΩ 1/4 W Carbon Δ R723 QRD141J-242S 2.4 kΩ 1/4 W Carbon Δ R724 QRD149J-221S 220 Ω 1/4 W Carbon Δ R725 QRD149J-221S 220 Ω 1/4 W Carbon Δ R727 QRD149J-100S 10 Ω 1/4 W Carbon Δ R728 QRD149J-100S 10 Ω 1/4 W Carbon <t< td=""></t<>
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R720 QRD141J-102S 1 kΩ 1/4 W Carbon R721 QRD149J-332S 3.3 kΩ 1/4 W Carbon Δ R722 QRD149J-332S 3.3 kΩ 1/4 W Carbon Δ R723 QRD141J-242S 2.4 kΩ 1/4 W Carbon R724 QRD144J-242S 2.4 kΩ 1/4 W Carbon R725 QRD149J-221S 220 Ω 1/4 W Carbon Δ R726 QRD149J-100S 10 Ω 1/4 W Carbon Δ R727 QRD149J-100S 10 Ω 1/4 W Carbon Δ R729 QRD149J-100S 10 Ω 1/4 W Carbon Δ R730 QRD149J-100S 10 Ω 1/4 W Carbon Δ R731 ERF032K-R47 0.47 Ω 3 W Cement Δ R732 ERF032K-R47 0.47 Ω 3 W Cement Δ
R721 QRD149J-332S 3.3 kΩ $1/4$ W Carbon \triangle R722 QRD149J-332S 3.3 kΩ $1/4$ W Carbon \triangle R723 QRD141J-242S 2.4 kΩ $1/4$ W Carbon \triangle R724 QRD141J-242S 2.4 kΩ $1/4$ W Carbon \triangle R725 QRD149J-221S 220 Ω $1/4$ W Carbon \triangle R726 QRD149J-221S 220 Ω $1/4$ W Carbon \triangle R727 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R728 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R729 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R730 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R731 ERF032K-R47 0.47 Ω 3 W Cement \triangle R732 ERF032K-R47 0.47 Ω 3 W Cement \triangle
R722 QRD149J-332S 3.3 kΩ 1/4 W Carbon Λ R723 QRD141J-242S 2.4 kΩ 1/4 W Carbon Λ R724 QRD141J-242S 2.4 kΩ 1/4 W Carbon Λ R725 QRD149J-221S 220 Ω 1/4 W Carbon Λ R726 QRD149J-221S 220 Ω 1/4 W Carbon Λ R727 QRD149J-100S 10 Ω 1/4 W Carbon Λ R728 QRD149J-100S 10 Ω 1/4 W Carbon Λ R729 QRD149J-100S 10 Ω 1/4 W Carbon Λ R730 QRD149J-100S 10 Ω 1/4 W Carbon Λ R731 ERF032K-R47 0.47 Ω 3 W Cemen Λ R732 ERF032K-R47 0.47 Ω 3 W Cemen Λ
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R724 QRD141J-242S 2.4 kΩ $1/4$ W Carbon R725 QRD149J-221S 220 Ω $1/4$ W Carbon \triangle R726 QRD149J-221S 220 Ω $1/4$ W Carbon \triangle R727 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R728 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R729 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R730 QRD149J-100S 10 Ω $1/4$ W Carbon \triangle R731 ERF032K-R47 0.47 Ω 3 W Cemen \triangle R732 ERF032K-R47 0.47 Ω 3 W Cemen \triangle
R725 QRD149J-221S 220 Ω 1/4 W Carbor Δ R726 QRD149J-221S 220 Ω 1/4 W Carbor Δ R727 QRD149J-100S 10 Ω 1/4 W Carbor Δ R728 QRD149J-100S 10 Ω 1/4 W Carbor Δ R729 QRD149J-100S 10 Ω 1/4 W Carbor Δ R730 QRD149J-100S 10 Ω 1/4 W Carbor Δ R731 ERF032K-R47 0.47 Ω 3 W Cement Δ R732 ERF032K-R47 0.47 Ω 3 W Cement Δ
R726 QRD149J-221S 220 Ω 1/4 W Carbor $\overline{\Delta}$ R727 QRD149J-100S 10 Ω 1/4 W Carbor $\overline{\Delta}$ R728 QRD149J-100S 10 Ω 1/4 W Carbor $\overline{\Delta}$ R729 QRD149J-100S 10 Ω 1/4 W Carbor $\overline{\Delta}$ R730 QRD149J-100S 10 Ω 1/4 W Carbor $\overline{\Delta}$ R731 ERF032K-R47 0.47 Ω 3 W Cement $\overline{\Delta}$ R732 ERF032K-R47 0.47 Ω 3 W Cement $\overline{\Delta}$
R727 QRD149J-100S 10 Ω 1/4 W Carbor Δ R728 QRD149J-100S 10 Ω 1/4 W Carbor Δ R729 QRD149J-100S 10 Ω 1/4 W Carbor Δ R730 QRD149J-100S 10 Ω 1/4 W Carbor Δ R731 ERF032K-R47 0.47 Ω 3 W Cement Δ R732 ERF032K-R47 0.47 Ω 3 W Cement Δ
R728 QRD149J-100S 10 Ω 1/4 W Carbon \triangle R729 QRD149J-100S 10 Ω 1/4 W Carbon \triangle R730 QRD149J-100S 10 Ω 1/4 W Carbon \triangle R731 ERF032K-R47 0.47 Ω 3 W Cemen \triangle R732 ERF032K-R47 0.47 Ω 3 W Cemen \triangle
R729 QRD149J-100S 10 Ω 1/4 W Carbon Δ R730 QRD149J-100S 10 Ω 1/4 W Carbon Δ R731 ERF032K-R47 0.47 Ω 3 W Cement Δ R732 ERF032K-R47 0.47 Ω 3 W Cement Δ
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R731 ERF032K-R47 0.47 Ω 3 W Cement Δ R732 ERF032K-R47 0.47 Ω 3 W Cement Δ
R732 ERF032K-R47 0.47 Ω 3 W Cemen Λ
R733 QRD149J-101S 100 Ω 1/4 W Carbon Λ
R733 QRD149J-101S 100 Ω 1/4 W Carbon Δ R743 QRD149J-4R7S 4.7 Ω 1/4 W Carbon Δ
R744 QRD149J-4R7S 4.7 Ω 1/4 W Carbon Δ
R745 QRD129J-100 10 Ω 1/2 W Carbon Δ
R746 QRD129J-100 10 Ω 1/2 W Carbon Δ
R747 QRD129J-221 220 Ω 1/2 W Carbon Δ
R748 QRD129J-221 220 Ω 1/2 W Carbon Δ
R749 QRD129J-472 4.7 kΩ 1/2 W Carbon Δ
R801 QRD141J-222S 2.2 kΩ 1/4 W Carbon
R802 QRD141J-222S 2.2 kΩ 1/4 W Carbon
R803 QRD141J-183S 18 kΩ 1/4 W Carbon
R804 QRD141J-183S 18 kΩ 1/4 W Carbon
R805 QRD141J-683S 68 kΩ 1/4 W Carbon
R806 QRD141J-683S 68 kΩ 1/4 W Carbon
R806 QRD141J-683S 68 kΩ 1/4 W Carbon R807 QRD141J-473S 47 kΩ 1/4 W Carbon
R806 QRD141J-683S 68 kΩ 1/4 W Carbon

Resistors

Item No.	Part Number	Rati	ng	Description	
R810	QRD141J-682S	6.8 kΩ	1/4 W	Carbon	
R811	QRD141J-683S	68 kΩ	1/4 W	Carbon	
R812	QRD141J-563S	56 kΩ	1/4 W	Carbon	
R813	QRD141J-273S	27 kΩ	1/4 W	Carbon	
R814	QRD141J-184S	180 kΩ	1/4 W	Carbon	
R815	QRG027J-391	390 Ω	2 W	O.M. Film 🛕	
R816	QRD141J-273S	27 kΩ	1/4 W	Carbon	
R817	QRD141J-183S	18 kΩ	1/4 W	Carbon	
R818	QRD141J-683S	68 kΩ	1/4 W	Carbon	
R819	QRD141J-562S	5.6 kΩ	1/4 W	Carbon	
R820	QRD149J-331S	330 Ω	1/4 W	Carbon 🛕	
R901	QRZ0052-101	100 Ω	1/4 W	Carbon <u>∧</u>	
R902	QRG019J-182S	1.8 kΩ	1 W	O.M. Film 🛆	
R903	QRD141J-682S	6.8 kΩ	1/4 W	Carbon	
R904	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R905	QRD141J-333S	33 kΩ	1/4 W	Carbon	
R906	QRD149J-220S	22 Ω	1/4 W	Carbon 🛆	

Others

Item No.	Part Number	Rating	Description
	E10734-101		Cir Board
	QMV5005-004	(4P Plug Ass'y
	E301842-003		Heat Sink Bkt
	E301842-004		Heat Sink Bkt
	SBSB3008Z		Tapping Screw
	SBSE3012Z		Screw
	E302238-002		Heat Sink
	E67357-002		Heat Sink
	E302325-001		LED Holder
	E65396-001		Earth Plate
S401	QST44A2-E01		Push Switch
S501	QST2101-E01		Push Switch
S601	QST4241-E03		Push Switch
RY701	ESK5D24-215		Relay

7-(2) TPS-292E/292FBS AC P.C.Board Ass'y

[for Europe, West Germany, U.K. and Australia]

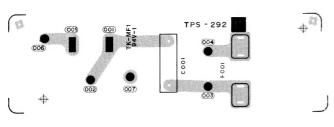


Fig. 12

7-(4) TPS-329A AC P.C. Board Ass'y

[for U.S.A. and Canada]

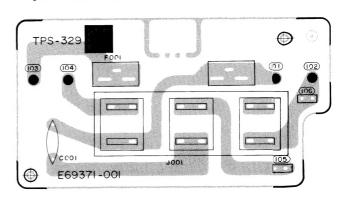


Fig. 14

7-(3) TPS-334A AC P.C.Board Ass'y

[for U.S. Military Market and Other Countries]

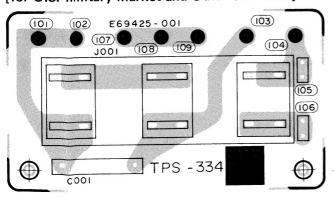


Fig. 13

TPS-292E/292FBS

Item No.	Part Number	Rating	Description
C001	QFZ9010-103	0.01 μF	Film (for TPS-292E)
C001	QFZ9010-103BS	0.01 μF	Film (for TPS-292FBS)
	E48965-002		Fuse Clip
	E67790-001		Circuit Board
			(for TPS-292E)
	E67790-001BS		Circuit Boad
			(for TPS-292FBS)

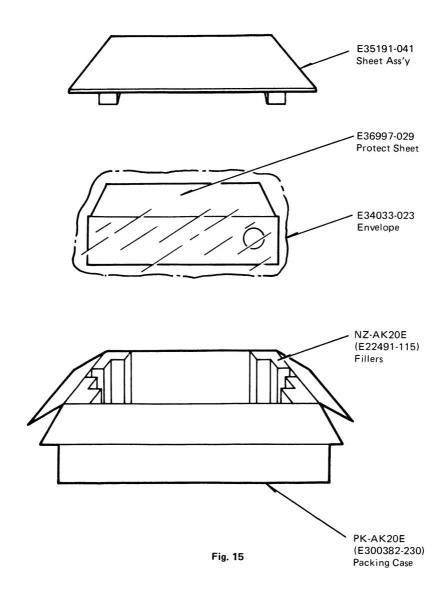
TPS-334A

Item No.	Part Number	Rating	Description
C001	QFZ9010-103	0.01 μF	Film
	QMC0637-004		AC Outlet
	E69425-001		Circuit Board

TPS-329A

Item No.	Part Number	Rating	Description
C001	QCZ9014-103A	0.01 μF	Ceramic Capaci tor
	QMC0637-004		AC Outlet
	E03675-004		Fuse Clip
	E69371-001		Circuit Boald

9. Packing Materials Part Numbers



10. Accessories List

Item No.	Part Number	Description	Q'ty
1	E30580-1006B	Instruction Book (for U.K., E30580-1006BBS)	1
2	See back cover	Warranty Card	1
3	E41202-2	Envelope for Instruction Book and Warranty Card	1
4	E66416-003	Envelope for Warranty Card (for U.S.A. and Canada)	1
5	BT20044B	JVC Safety Instruction Sheet (for U.S.A. only)	1
6	BT20046	Service Information Card (for U.S.A. and U.S. Military Market)	1
7	See back cover	Fuses (within)	1
8	E64204-073	Envelope for Fuses (within)	1

11. Parts List with Specified Numbers for Designated Areas

Item No.	. Description	USA & Canada	U.K.	Europe	West Germany	Australia	US Military Market & Other Countries
1	Chassis Base	E10672-002	E10672-004	E10672-004	E10672-004	E-10672-004	E10672-002
2	Rear Panel	E24155-004	E24155-006	E24155-006	E24155-006	E24155-006	E24155-005
3	Mask Plate	E68303-001	_	_	_	-	-
4	Power Transformer 🛆	ETP1070- 04JA (for U.S.A.) ETP1070- 04CA (for Canada)	ETP1070- 04EABS	ETP1070- 04EA	ETP1070- 04EA	ETP1070- 04EA	ETP1070- 04FA
5	Power Switch 🛆	QSP1110-308	QSP1110- 305BS	QSP1110-305	QSP1110-305	QSP1110-305	QSP1110-305
6	Switch Cover 🛆	_	E301869-001	E301869-001	E301869-001	E301869-001	E301869-001
7	Power Cord 🛆	QMP1200- 200	QMP9017- 008BS	QMP3900- 200	QMP3900 200	QMP2560- 244	QMP7600- 250
8	Siemens Plug 🛆	_	_	_	_	_	E04056
9	Cord Stopper ⚠	QHS3876- 162	QHS3876- 162BS	QHS3876- 162	QHS3876- 162	QHS3876- 162	QHS3876- 162
10	Voltage Selector ⚠	_	_	_	_	_	QSR0085- 001U
11	AC Outlet 🛆	QMC0637- 004	_	_	_	_	QMCO637- 004
12	Fuse Socket 🛆	_	_	_	_	_	QMGO301- 003
13	Fuse Primary ⚠	QMF61U1- 2R5	QMF51A2- 1R25LBS	QMF51A2- 1R25L	QMF51A2- 1R25L	QMF51A2- 1R25L	QMF51A2- 1R25L or QMF51A2- 2R5L
14	Fuse (within) ⚠	-	-	-	-	_	QMF51A2- 1R25L or QMF51A2- 2R5L
15	Pin Jack	E03591-41F	_	_	_	_	_
16	Din/Pin Jack	_	E03591-002	E03591-002	E03591-002	E03591-002	E03591-002
17	AC P.C. Board	TPS-329A	TPS-292FBS	TPS-292E	TPS-292E	TPS-292E	TPS-3 34A
18	Main Amp. P.C. Board	TXX-410A	TXX-410B	TXX-410B	TXX-410D	TXX-410B	TXX-410C
19	Warranty Card	BT20048 (for U.S.A.) BT20025D (for Canada)	BT20013C	_	BT20057	BT20029C	BT20O48 (for U.S., Military Market only)

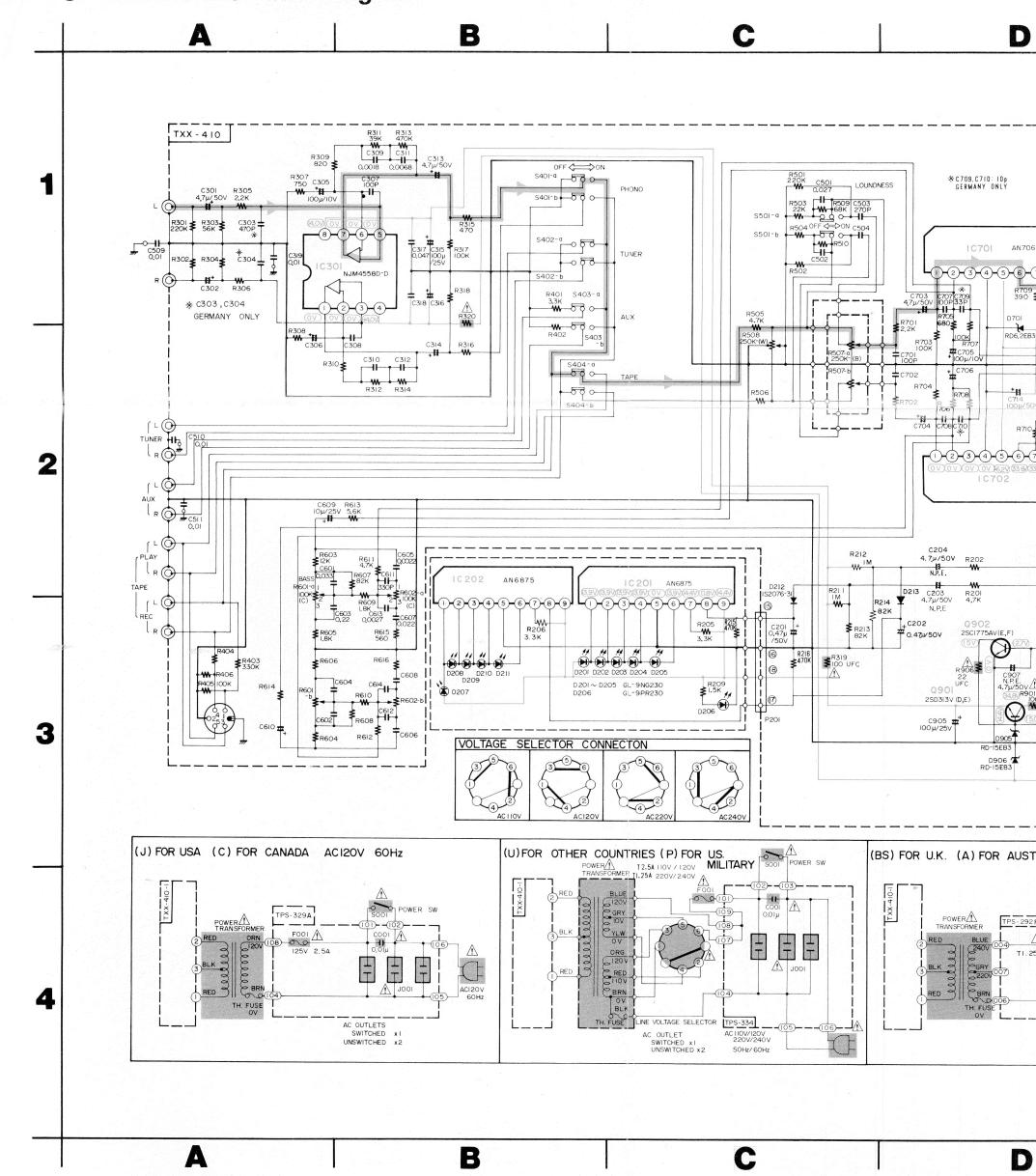
 \triangle : Safety parts



VICTOR COMPANY OF JAPAN, LIMITED, TOKYO, JAPAN



8. A-K20 Schematic Diagram



Printed Circuit Board Ass'y Locations

P.C. Board Ass'y	Description	Page
TXX-410A/B/C/D	Main Amp. P.C. Board Ass'y	6
TPS-292E/FBS	AC P.C. Board Ass'y	9
TPS-334A		9
TPS-329A		9

Notes:

- 1. Voltage values in _____ are positive.
- 2. Voltage values in are negative.
- indicates positive B power supply.
- indicates negative B power supply.
- 5. indicates signal path.
- 6. When replacing the parts in the darkened area () and those marked with riangle , be sure to use the designated parts to ensure safety.
- 7. Parts in red indicate transistors or ICs.
- 8. This is the standard circuit diagram. The design and contents are subject to change without notice.

